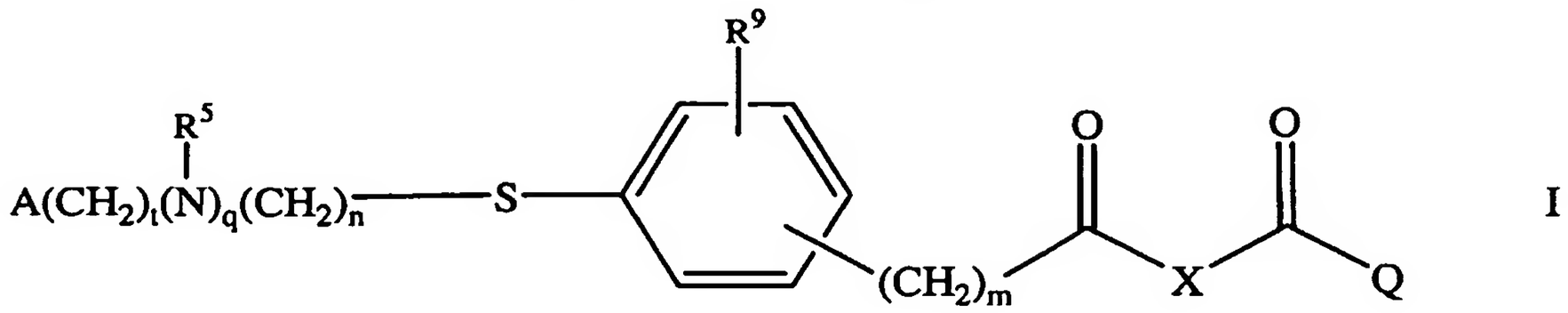
CLAIMS

What is claimed is:

1. A biologically active agent, wherein the agent is a compound of the formula:



I

wherein

n is 1 or 2;

m is 0 or 1;

q is 0 or 1;

t is 0 or 1;

R^5 is alkyl having from 1 to 3 carbon atoms;

R^9 is hydrogen, halo, alkyl having from 1 to 3 carbon atoms, or alkoxy having from 1 to 3 carbon atoms;

A is phenyl, unsubstituted or substituted by 1 or 2 groups selected from: halo, alkyl having 1 or 2 carbon atoms, perfluoromethyl, alkoxy having 1 or 2 carbon atoms, and perfluoromethoxy; or

cycloalkyl having from 3 to 6 ring carbon atoms wherein the cycloalkyl is unsubstituted or one or two ring carbons are independently mono-substituted by methyl or ethyl; or

a 5 or 6 membered heteroaromatic ring having 1 or 2 ring heteroatoms selected from N, S and O and the heteroaromatic ring is covalently bound to the remainder of the compound of formula I by a ring carbon; and

X is $-CH_2-$, Q is $-OR^1$ and R^1 is methyl or ethyl; or X is $-CH_2CR^{12}R^{13}-$ or $-CH_2CH(NHAc)-$ wherein each of R^{12} and R^{13} is independently hydrogen or methyl, Q is OR^1 and R^1 is hydrogen or alkyl having from 1 to 7 carbon atoms; or X is $-CH_2CH_2-$ and Q is $NR^{10}R^{11}$ wherein one of R^{10} and R^{11} is hydrogen, alkyl having from 1 to 3 carbon atoms or hydroxy, and the other is hydrogen;

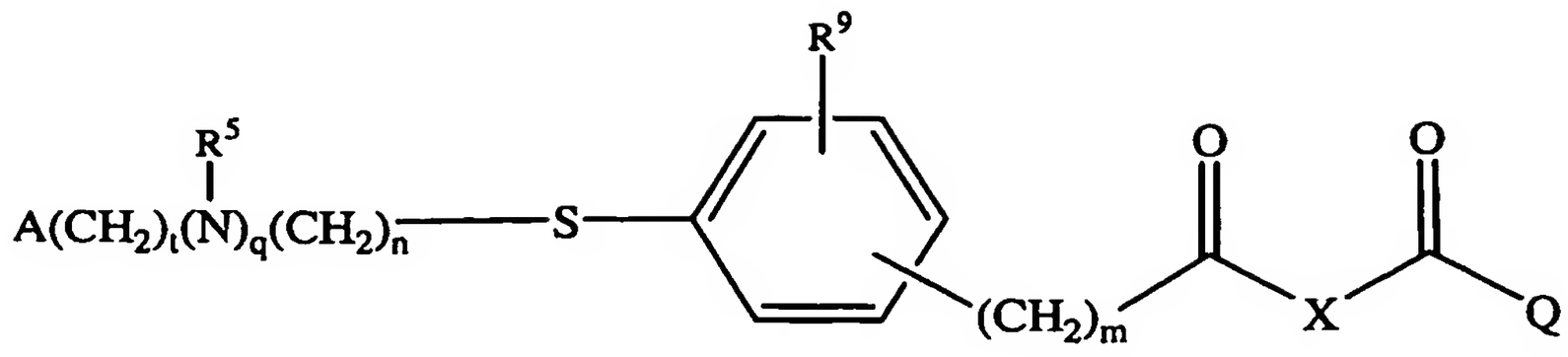
or when R^1 is hydrogen, a pharmaceutically acceptable salt of the compound.

2. The biologically active agent of claim 1, wherein n is 1; q is 0; t is 0; R^9 is hydrogen; and
A is phenyl, unsubstituted or substituted by 1 or 2 groups selected from: halo, alkyl having 1 or 2 carbon atoms, perfluoromethyl, alkoxy having 1 or 2 carbon atoms, and perfluoromethoxy.

3. The biologically active agent of claim 2, wherein A is 2,6-dimethylphenyl.

4. The biologically active agent of claim 3, 4-(4-[(2,6-Dimethylbenzyl)-thio]-phenyl)-4-oxobutyric acid.

5. Use of a biologically active agent in the manufacture of a medicament for treatment of a condition selected from the group consisting of insulin resistance syndrome and diabetes including Type I Diabetes and Type II Diabetes; or for the treatment or reduction in the chance of developing atherosclerosis, arteriosclerosis, obesity, hypertension, hyperlipidemia, fatty liver disease, nephropathy, neuropathy, retinopathy, foot ulceration or cataracts associated with diabetes; or for the treatment of a condition selected from the group consisting of hyperlipidemia, cachexia, and obesity; wherein the agent is a compound of the formula:



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cycloalkyl having from 3 to 6 ring carbon atoms wherein the cycloalkyl is unsubstituted or one or two ring carbons are independently mono-substituted by methyl or ethyl; or
a 5 or 6 membered heteroaromatic ring having 1 or 2 ring heteroatoms selected from N, S and O and the heteroaromatic ring is covalently bound to the remainder of the compound of formula I by a ring carbon; and

X is $-CH_2-$, Q is $-OR^1$ and R^1 is methyl or ethyl; or X is $-CH_2CR^{12}R^{13}-$ or $-CH_2CH(NHAc)-$ wherein each of R^{12} and R^{13} is independently hydrogen or

methyl, Q is OR^1 and R^1 is hydrogen or alkyl having from 1 to 7 carbon atoms; or X is $-CH_2CH_2-$ and Q is $NR^{10}R^{11}$ wherein one of R^{10} and R^{11} is hydrogen, alkyl having from 1 to 3 carbon atoms or hydroxy, and the other is hydrogen;

or when R^1 is hydrogen, a pharmaceutically acceptable salt of the compound.

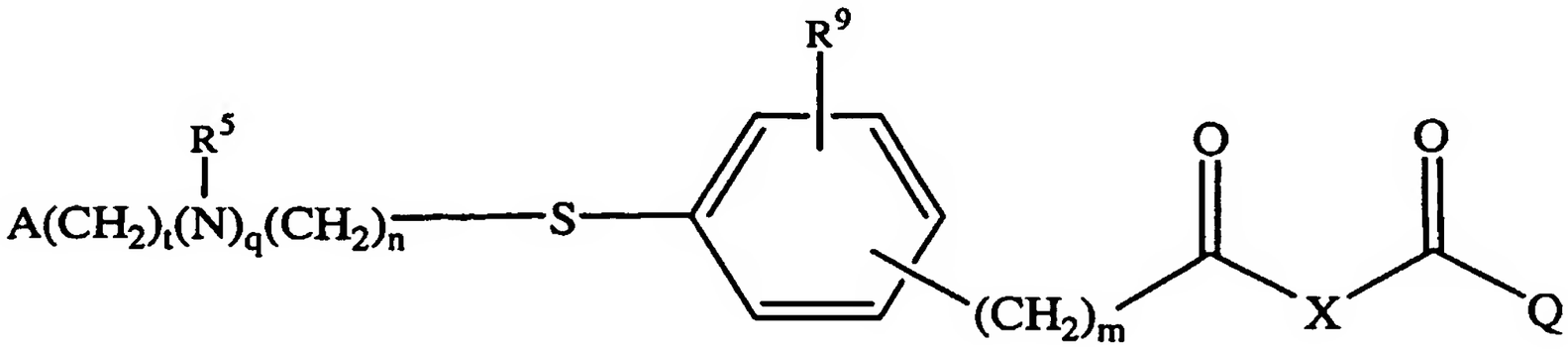
6. The use of claim 5, wherein n is 1; q is 0; t is 0; R^9 is hydrogen; and
A is phenyl, unsubstituted or substituted by 1 or 2 groups selected from: halo, alkyl having 1 or 2 carbon atoms, perfluoromethyl, alkoxy having 1 or 2 carbon atoms, and perfluoromethoxy.

7. The use of claim 6, wherein A is 2,6-dimethylphenyl.

8. The use of claim 7, wherein the biologically active agent is 4-(4-[(2,6-Dimethylbenzyl)-thio]-phenyl)-4-oxobutyric acid.

9. The use of any one of claims 5 to 8, wherein the medicament is formulated for oral administration.

10. A method for treating a mammalian subject with a condition selected from the group consisting of insulin resistance syndrome, diabetes, hyperlipidemia, fatty liver disease, cachexia, obesity, atherosclerosis and arteriosclerosis comprising administering to the subject an amount of a biologically active agent,
wherein the agent is a compound of the formula:



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cycloalkyl having from 3 to 6 ring carbon atoms wherein the cycloalkyl is unsubstituted or one or two ring carbons are independently mono-substituted by methyl or ethyl; or
a 5 or 6 membered heteroaromatic ring having 1 or 2 ring heteroatoms selected from N, S and O and the heteroaromatic ring is covalently bound to the remainder of the compound of formula I by a ring carbon; and

X is $-CH_2-$, Q is $-OR^1$ and R^1 is methyl or ethyl; or X is $-CH_2CR^{12}R^{13}-$ or $-CH_2CH(NHAc)-$ wherein each of R^{12} and R^{13} is independently hydrogen or methyl, Q is OR^1 and R^1 is hydrogen or alkyl having from 1 to 7 carbon atoms; or X is $-CH_2CH_2-$ and Q is $NR^{10}R^{11}$ wherein one of R^{10} and R^{11} is hydrogen, alkyl having from 1 to 3 carbon atoms or hydroxy, and the other is hydrogen;

or when R^1 is hydrogen, a pharmaceutically acceptable salt of the compound.

11. The method of claim 10, wherein n is 1; q is 0; t is 0; R^9 is hydrogen; and A is phenyl, unsubstituted or substituted by 1 or 2 groups selected from: halo, alkyl having 1 or 2 carbon atoms, perfluoromethyl, alkoxy having 1 or 2 carbon atoms, and perfluoromethoxy.

12. The method of claim 11, wherein A is 2,6-dimethylphenyl.

13. The method of claim 12, wherein the biologically active agent is 4-(4-[(2,6-Dimethylbenzyl)-thio]-phenyl)-4-oxobutyric acid.

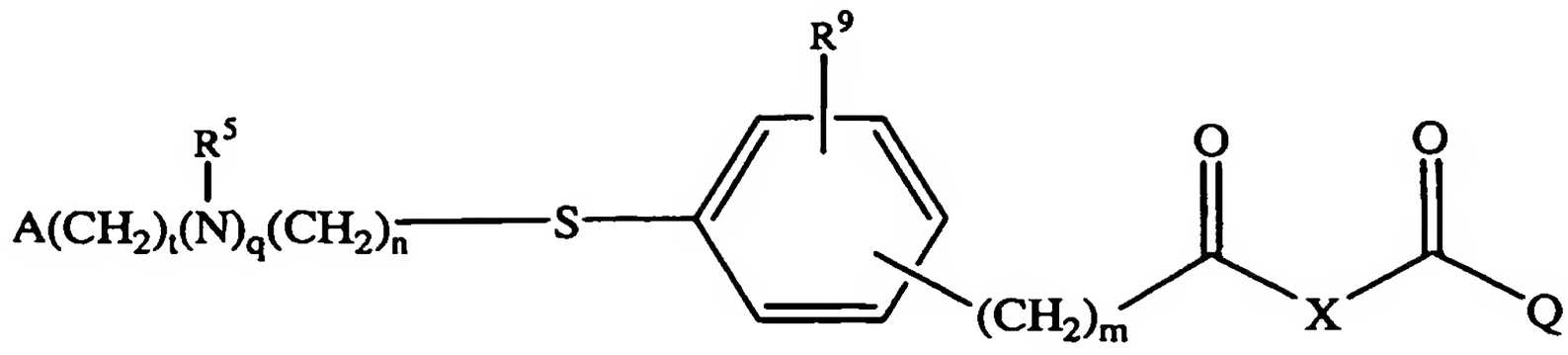
14. The method of any one of claims 10 to 13, wherein the subject is a human.

15. The method of claim 14, wherein the agent is administered orally in an amount from one milligram to four hundred milligrams per day.

16. The method of any one of claims 10 to 15, wherein the condition is insulin resistance syndrome or Type II Diabetes.

17. The method of any one of claims 10 to 16, wherein the treatment reduces a symptom of diabetes or the chances of developing a symptom of diabetes, wherein the symptom is selected from the group consisting of: atherosclerosis, obesity, hypertension, hyperlipidemia, fatty liver disease, nephropathy, neuropathy, retinopathy, foot ulceration and cataracts, associated with diabetes.

18. A pharmaceutical composition for use in the treatment of a condition selected from the group consisting of insulin resistance syndrome, diabetes, hyperlipidemia, fatty liver disease, cachexia, obesity, atherosclerosis, arteriosclerosis and adapted for oral administration, comprising a pharmaceutically acceptable carrier and from one milligram to four hundred milligrams of a biologically active agent,
wherein the agent is a compound of the formula:



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cycloalkyl having from 3 to 6 ring carbon atoms wherein the cycloalkyl is unsubstituted or one or two ring carbons are independently mono-substituted by methyl or ethyl; or
a 5 or 6 membered heteroaromatic ring having 1 or 2 ring heteroatoms selected from N, S and O and the heteroaromatic ring is covalently bound to the remainder of the compound of formula I by a ring carbon; and

X is $-CH_2-$, Q is $-OR^1$ and R^1 is methyl or ethyl; or X is $-CH_2CR^{12}R^{13}-$ or $-CH_2CH(NHAc)-$ wherein each of R^{12} and R^{13} is independently hydrogen or methyl, Q is OR^1 and R^1 is hydrogen or alkyl having from 1 to 7 carbon atoms; or X is $-CH_2CH_2-$ and Q is $NR^{10}R^{11}$ wherein one of R^{10} and R^{11} is hydrogen, alkyl having from 1 to 3 carbon atoms or hydroxy, and the other is hydrogen;

or when R^1 is hydrogen, a pharmaceutically acceptable salt of the compound.

19. The pharmaceutical composition of claim 18, wherein n is 1; q is 0; t is 0; R^9 is hydrogen; and

A is phenyl, unsubstituted or substituted by 1 or 2 groups selected from: halo, alkyl having 1 or 2 carbon atoms, perfluoromethyl, alkoxy having 1 or 2 carbon atoms, and perfluoromethoxy.

20. The pharmaceutical composition of claim 19, wherein A is 2,6-dimethylphenyl.

21. The pharmaceutical composition of claim 20, wherein the biologically active agent is 4-(4-[(2,6-Dimethylbenzyl)-thio]-phenyl)-4-oxobutyric acid.

22. The pharmaceutical composition of any one of claims 18 to 21 in oral dosage form.

23. The invention substantially as described above.